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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/038,230	03/11/1998	TSUGUO KOYANAGI	1217-980347	8053

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EXAMINER	
METZMAIER, DANIEL S	
ART UNIT	**PAPER NUMBER**
1712	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/038,230	KOYANAGI ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 5, and 6 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 6 sets forth a group of "at least one inorganic oxide other than silica is selected from . . . . Sb_5O_2 and WO_3. Applicants' examples or originally filed specication fail to provide how one skilled in the art would make and use the materials employing "Sb_5O_2".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (f) he did not himself invent the subject matter sought to be patented.

4. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al, US 5,316,854, as evidenced by Ching, US 4,373,060. Lin et al (example VI)

discloses the combination Ludox LS (DuPont), acetic acid, and γ-glycidolpropyl trimethoxysilane (A-187). Ludox LS is a 30 % by weight of silica having a low Na_2O content. Said composition reads on applicants claimed compositions as represented by the evidence of record.

Ching (column 4, line 66, to column 5, line 14) disclose Ludox LS (DuPont) has a low sodium content (**L**ow **S**odium) of 0.35% calculated as Na_2O, a particle size of 10 to 30 millimicrons (equal 10 to 30 nanometers, nm). A Na_2O of 0.35 % by weight equals a weight ratio of silica to Na_2O of 285.7 silica/ Na_2O. Said ratio reads on that claimed.

The dispersion media is an aqueous solution. Instant Table 2 on page 24 specifically sets forth the dielectric constant for water as 77, which reads on the instant claimed range of 10 to 85. See instant Table 1 for the molecular polarizability of γ-glycidolpropyl trimethoxysilane (A-187), which reads on those claimed. Applicants (instant specification at page 9, line 5 et seq) specifically include organic acids in the compositions.

Applicants product-by-process limitations do not distinguish the compositions, which otherwise read on the Lin et al reference as evidenced by Ching. Attention is directed to MPEP 2113.

The limitation of claim 5 is clearly present in the Lin et al reference since the compositions have ionic components, i.e., acetic acid, present.

5. Claims 1, 5, and 6 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. Nishida et al, US 6,680,040, has a common inventor, i.e., Hiroyasu Nishida, and is currently commonly assigned. Nishida et al '040

(claims 6 and 12) set forth sols of composite oxides. A review of the subject matter, which the claims are generic includes those of example 10, which refers to the composite of example 7. Said composite sol has a 0.5 weight % Al_2O_3, which equates to a SiO2/ Al_2O_3 ratio of 200/1. The vinylsilane of example 10 reads on applicants' claimed organic compound. See the instant specificatioin at page 7, line 8, or instant example 7. The aqueous media reads on the instantly claimed dispersing media. See instant example 13 for the dielectric constant for water.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 5, and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6 and 12 of U.S. Patent No. 6,680,040. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are encompassed by patentees' claims and the claims substantially overlap.

Response to Arguments

8. Applicant's arguments filed June 27, 2005 have been fully considered but they are not persuasive.

9. Applicants (page 5) assert the Lin et al does not disclose or teach inorganic compound particulates, which are surface modified by inorganic compound and applicants assert the organic compound is used as a matrix that the oxide particles are dispersed. This has not been deemed persuasive for the following reasons. (1) Initially, applicants arguments are confusing since the particles are not surface modified with an inorganic compound.

(2) The claims are drafted as product-by-process. Applicants' claims do not exclude the further incorporation of inorganic oxides throughout the materials claimed. Applicants intend composite materials. Furthermore, applicants bear the burden of coming forward with objective evidence that the process imparts patentable distinction to the composition where a *prima facie* case has been made out.

(3) Example VI specifically discloses the use of LUDOX LS, which would have sodium oxide, which at least some would be on the surface. Lin et al (example VI) discloses the organic compound (silane) is employed in a system having acetic acid, which is a known hydrolysis catalyst. Since the hydrolysis/condensation is known to be an equilibrium reaction, it is reasonable to expect at least some of the silica surface to be reacted (i.e., condensed) with the organic compound (i.e., silane).

10. Applicants (page 5) assert the present invention surface modifies the particulate material at an elevated temperature (e.g., 50° or higher). This has not been deemed

persuasive since the claims do not make said argued distinction and applicants have not shown said process limitation to impart a patentable distinction to the products.

11. Applicants' (page 5) assertions that LUDOX LS is not disclosed in the Lin et al reference as having Na_2O within the silica as a composite. Applicants' arguments regarding the asserted structures of composite particles have not been deemed persuasive since applicants have not shown said composites to be distinct from the LUDOX LS materials.

12. Applicants' (page 6) arguments regarding claims 1 and 5 have been addressed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM